

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

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1. (Currently Amended) A starting clutch, comprising:
a planetary mechanism;
a first clutch ~~for outputting~~ that outputs a torque to an outer diameter portion of said planetary mechanism;
a second clutch ~~for outputting~~ that outputs the torque to an intermediate portion of said planetary mechanism; and
a lock mechanism ~~for locking~~ that locks a reactive force from an inner diameter portion of said planetary mechanism, wherein a ring gear of said planetary mechanism is connected to a clutch case of said second clutch and an output shaft is connected through a carrier of said planetary mechanism to a hub of said second clutch.

2. (Original) A starting clutch according to claim 1, wherein said planetary mechanism comprises a planetary gear.

3. (Currently Amended) A starting clutch according to claim 1, wherein the lock mechanism ~~for locking the reactive force from said inner portion~~ comprises an a one-way clutch.

4. (Currently Amended) A starting clutch according to claim 1, wherein a multi-plate clutch is used for said first clutch and said second clutch.

5. (Currently Amended) A starting clutch according to claim 4, wherein a piston ~~for fastening~~ fastens said first clutch and said second clutch ~~is integrally provided~~.

6. (Currently Amended) A starting clutch according to claim 4, wherein a hub of said first clutch ~~becomes a~~ is also the clutch case of said second clutch.

7. (Currently Amended) A starting clutch according to claim 2, wherein said starting clutch comprises a case ~~for covering said element~~ that covers the planetary mechanism and a clutch case ~~for covering~~ that covers said first clutch, and wherein a bearing mechanism intervenes between said case and said clutch case.

8. (Currently Amended) A starting clutch according to claim 4, wherein a bearing mechanism intervenes between the a clutch case of said first clutch and the hub.

4. (Currently Amended) A starting clutch according to claim 1, wherein a multi-plate clutch is used for said first clutch and said second clutch.

5. (Currently Amended) A starting clutch according to claim 4, wherein a piston ~~for fastening~~ fastens said first clutch and said second clutch ~~is integrally provided~~.

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6. (Currently Amended) A starting clutch according to claim 4, wherein a hub of said first clutch ~~becomes a~~ is also the clutch case of said second clutch.

7. (Currently Amended) A starting clutch according to claim 2, wherein said starting clutch comprises a case ~~for covering said element~~ that covers the planetary mechanism and a clutch case ~~for covering~~ that covers said first clutch, and wherein a bearing mechanism intervenes between said case and said clutch case.

8. (Currently Amended) A starting clutch according to claim 4, wherein a bearing mechanism intervenes between the a clutch case of said first clutch and the hub.

9. (Original) A starting clutch according to claim 4, wherein a bearing mechanism intervenes between the clutch case of said second clutch and the hub.

10. (Currently Amended) A starting clutch according to claim 2, wherein a bearing mechanism intervenes between said clutch case of said second clutch and the planetary gear.

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11. (Original) A starting clutch according to claim 7, wherein said bearing mechanism is a thrust washer, a needle bearing or a thrust ball bearing.

12. (Withdrawn) A starting clutch according to claim 2, further comprising an output shaft, wherein a bearing is intervened between said output shaft and said planetary gear.

13. (Currently Amended) A starting clutch according to claim 2, wherein the a hub of said first clutch is connected to a ring gear of said planetary gear.

14. (Original) A starting clutch according to claim 2, wherein the hub of said second clutch is connected to a carrier of said planetary gear.

15. (Original) A starting clutch according to claim 1, wherein said output shaft is connected to said carrier.

16. (Currently Amended) A starting clutch according to claim 2, wherein a base member ~~having~~ has a portion which ~~becomes~~ that is also an inner ring of said a one-way clutch and is connected to a fixed element.

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17. (Currently Amended) A starting clutch according to claim 13, wherein ~~said each member are~~ the hub of said first clutch and the ring gear are connected by a spline fitting.

18. (Currently Amended) A starting clutch according to claim 2, wherein an outer ring portion of said a one-way clutch is formed on the a sun gear or the an inner periphery portion of the a member connected to the sun gear.

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19. (Withdrawn) A starting clutch according to claim [[1]] 16, wherein the fixed element and the planetary gear are arranged on the an outer periphery side of the output shaft and said base member and said one-way clutch are arranged on the an outer periphery of said fixed element and, furthermore, said second clutch is arranged on the an outer periphery side of said one-way clutch and said first clutch is arranged on the an outer periphery side of said second clutch, respectively, and they are covered by a case.

20. (Currently Amended) A starting clutch according to claim 1, wherein the a fixed element and the a planetary gear are arranged on the an outer periphery side of the an output shaft and said a base member and said a one-way clutch are arranged on the outer periphery of said fixed element and, furthermore, said second clutch is arranged on the an outer periphery side of said planetary gear and said first clutch is arranged on the an outer periphery side of said second clutch, respectively, and they are covered by a case.

21. (Original) A starting clutch according to claim 1, further comprising a damper mechanism.

22. (Currently Amended) A starting clutch according to claim 21, wherein said damper mechanism ~~is constituted by~~ includes a retainer plate fixed to said case, a claw member spline-fitted on the an outer periphery of the a clutch case of the first clutch and a spring intervened between said a retainer plate and the claw member.

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23. (Original) A starting clutch according to claim 1, further comprising a hill holder mechanism.

24. (Currently Amended) A starting clutch according to claim 23, wherein said hill holder mechanism ~~takes~~ uses a member connected to said carrier or a said carrier as an outer ring and ~~said~~ a base member as ~~[[a]]~~ an inner ring.

25. (Currently Amended) A starting clutch according to claim 23, wherein said hill holder mechanism ~~takes the~~ uses a member connected to said carrier as the an outer ring and ~~said~~ a sun gear or the a member connected to ~~[[a]]~~ the sun gear as the inner ring.

26. (Currently Amended) A starting clutch according to claim 23 24, wherein the member connected to said carrier is the hub of the second clutch.

27. (Withdrawn) A starting clutch according to claim 1, wherein ~~the~~ an operation of ~~the~~ a piston ~~for fastening~~ that fastens the first clutch or the second clutch is ~~by the~~ through an operating mechanism ~~combined of~~ comprising a lever and a release bearing.

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28. (Currently Amended) A starting clutch according to claim 1, wherein ~~the~~ a piston ~~for fastening~~ that fastens the first clutch or the second clutch ~~takes~~ utilizes a ball screw as ~~the~~ an operating mechanism.

29. (Withdrawn) A starting clutch according to claim 1, wherein ~~the~~ a piston ~~for fastening~~ that fastens the first clutch or the second clutch ~~takes the~~ uses a release bearing and ~~the~~ a ball screw, ~~for pushing~~ that pushes down the release bearing, as ~~the~~ an operating mechanism.

30. (Withdrawn) A starting clutch according to claim 1, wherein ~~the~~ a piston ~~for fastening~~ that fastens the first or the second clutch operates by oil pressure.

31. (Withdrawn) A starting clutch according to claim 1, wherein ~~the~~ a piston ~~for fastening~~ that fastens the first clutch or the second clutch operates by oil pressure supplied from a motor-operated pump.

32. (Withdrawn) A starting clutch according to claim 1, wherein an oil pressure circuit including said a motor-operated pump is provided ~~independently apart from the oil pressure circuit with~~ that uses an engine pump as an oil pressure source.

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33. (Withdrawn) A starting clutch according to claim [[1]] 32, wherein the an oil pressure circuit with that includes the oil pressure circuit including said motor-operated pump and an said engine pump as an oil pressure source ~~is included in the same oil pressure circuit and also~~ includes a device that detects ~~means for detecting~~ the number of engine rotations, and the oil pressure circuit comprising a valve to be regulated ~~in an opening amount~~ according to the number of engine rotations detected by said ~~means~~ device.

34. (Withdrawn) A starting clutch according to claim 33, further comprising:

~~means for detecting~~ a device that detects oil pressure generated by said engine pump; and

a control device ~~for regulating~~ that regulates the operation of said motor-operated pump according to oil pressure generated by said engine pump.

35. (Withdrawn) A starting clutch according to claim 32, further comprising an oil temperature detection means device, wherein a mechanism ~~for regulating the~~ regulates an opening amount of ~~the~~ a valve by the detected oil temperature ~~is provided~~.

36. (Withdrawn) A starting clutch according to claim 5, wherein the piston ~~for fastening~~ that fastens the first clutch or the second clutch operates by an electromagnet.

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37. (Withdrawn) A starting clutch according to claim 1, wherein an biasing means device is provided ~~for biasing~~ that biases a frictionally engaging element of the first clutch to such a degree that a creep torque is generated.

38. (Withdrawn) A starting clutch according to claim 37, wherein a biasing regulating means ~~for regulating the~~ device that regulates a biasing force of said biasing means device is provided.

39. (Withdrawn) A starting clutch according to claim [[37]] 38, wherein said biasing means device or biasing regulating means ~~is~~ device includes a spring member.

40. (Withdrawn) A starting clutch according to claim 39, wherein said spring member is a Belleville spring.

41. (Currently Amended) A starting clutch according to claim 1, wherein an amplified torque is ~~outputted~~ output by the fastening of said first clutch and said ~~one-way~~ second clutch.

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42. (Currently Amended) A starting clutch according to claim 1, wherein an amplified torque having 1 in a ratio of transmission is ~~outputted~~ output by the fastening of said first clutch and said second clutch.

43. (Currently Amended) A starting clutch according to claim 1, wherein ~~the~~ an operating mechanism of the first or the second clutch is arranged on ~~the~~ an outer periphery side of said a fixed element.

44. (Currently Amended) A starting clutch according to claim 1, wherein, when ~~the~~ an operating mechanism is completely ON, the first clutch and the second clutch fasten together and, when the operating mechanism is completely OFF, the first clutch and the second clutch are released.

45. (Currently Amended) A starting clutch according to claim 1, wherein the first clutch fastens or slidably moves in a half operating state intermediate between said a completely ON and a completely OFF state.

46. (Currently Amended) A starting clutch according to claim 1 45, wherein the second clutch slidably moves or is released in said half operating state.

47. (Currently Amended) A starting clutch according to claim 1, wherein a coupled driving rotational element is arranged on an outer periphery of said a fixed element and, furthermore, the a piston is arranged on the outer periphery.

48. (Withdrawn) A starting clutch according to claim 47, wherein a cylinder and an oil chamber of said cylinder are provided on said coupled driving rotational element.

49. (Withdrawn) A starting clutch according to claim [[47]] 48, wherein the piston is separated from a frictionally engaging element by the operation of said cylinder.

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50. (Withdrawn) A starting clutch according to claim 47, wherein a thrust member for fastening the first clutch and the second clutch by thrusting said piston is provided.

51. (Withdrawn) A starting clutch according to claim 50, wherein said thrust member is a spring member.

52. (Withdrawn) A starting clutch according to claim 51, wherein said spring member intervenes between a support plate supported on an inner periphery of the clutch case of the first clutch by a snap ring and the piston.

53. (Withdrawn) A starting clutch according to claim 47, wherein an oil passage from said fixed element to ~~said~~ an oil chamber through said coupled driving rotational element is provided.

54. (Withdrawn) A starting clutch according to claim 53, wherein an oil passage from said output shaft to said oil chamber through said fixed element and said coupled driving rotational element is provided.

55. (Withdrawn) A starting clutch according to claim 47, wherein an outer periphery side of said coupled driving rotational element is closed with an oil seal.

B2 56. (Withdrawn) A starting clutch according to claim 47, wherein the outer periphery of said fixed element is supported by a bearing.

57. (Withdrawn) A starting clutch according to claim 47, wherein the outer periphery side of said fixed element is supported by a seal bearing.

58. (Withdrawn) A starting clutch according to claim 1, wherein lubricant is supplied from the output shaft to the first clutch, the second clutch, the a one-way clutch, and the planetary gear ~~or the like~~.

59. (Withdrawn) A starting clutch according to claim 58, wherein a lubricant oil supply hole is provided on said output shaft.

60. (Withdrawn) A starting clutch according to claim [[1]] 47, wherein ~~the~~ a lubricant oil supply hole is provided in said fixed element.

61. (Withdrawn) A starting clutch according to claim 59, wherein a lubricant oil passage which communicates with said output shaft from said fixed element is provided.

62. (Withdrawn) A starting clutch according to claim 1, wherein lubricant is supplied from a gap between said output shaft and ~~said~~ a fixed element.

63. (Withdrawn) A starting clutch according to claim 1, wherein ~~the~~ an inside of the clutch case is immersed in oil.

64. (Withdrawn) A starting clutch according to claim 47, wherein the first and the second clutches are fastened when the operating mechanism is completely OFF, and the first and the second clutches are released when the operating mechanism is ON.

65. (Currently Amended) A starting clutch according to claim 47, wherein only the first clutch fastens or slidably moves when ~~the~~ an operating mechanism is in a half operating state.

66. (Original) A starting clutch according to claim [[45]] 46, wherein a creep is generated by said first or the second clutch slidably moving.

67. (Currently Amended) A control method of a starting clutch, the starting clutch comprising:

a planetary mechanism;

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a first clutch ~~for outputting~~ that outputs a torque to an outer diameter portion of said planetary mechanism;

a second clutch ~~for outputting~~ that outputs the torque to an intermediate portion of said planetary mechanism; and

a lock mechanism ~~for locking~~ that locks a reactive force from an inner diameter portion of said planetary mechanism,

the method comprising:

wherein outputting an amplified torque ~~is outputted~~ by the fastening of said first clutch and said ~~one-way~~ second clutch.

68. (Currently Amended) A control method of a starting clutch according to claim 67, wherein a torque having 1 in a ratio of transmission is ~~outputted~~ output by the fastening of said first clutch and said second clutch.

69. (Currently Amended) A control method of a starting clutch according to claim 67, wherein, when ~~the~~ an operating mechanism is completely ON, the first clutch and the second clutch are fastened together and, when the operating mechanism is completely OFF, the first clutch and the second clutch are released.

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70. (Currently Amended) A control method of a starting clutch according to claim 69, wherein said first clutch is fastened or slidably moved in a half operating state intermediate between said completely ON and said completely OFF state.

71. (Currently Amended) A control method of a starting clutch according to claim 69, wherein said second clutch is fastened or slidably moved in a half operating state intermediate between said completely ON and said completely OFF state.

72. (Currently Amended) A control method of a starting clutch according to claim 67, wherein, when ~~the~~ an operating mechanism is completely OFF, the first and the second clutches are fastened and, when the operating mechanism is completely ON, the first and the second clutches are released.

73. (Currently Amended) A control method of a starting clutch according to claim 72, wherein said operating mechanism fastens or slidably moves the first clutch only in a half operating state intermediate between said completely ON and said completely OFF state.

74. (Original) A control method of a starting clutch according to claim 70, wherein a creep is generated by said first clutch slidably moving.

75. (Withdrawn) A starting clutch according to claim 2, wherein the lock mechanism for locking the reactive force from said inner portion comprises a one-way clutch.

76. (Withdrawn) A starting clutch according to claim 5, wherein a bearing mechanism intervenes between the clutch case of said first clutch and the hub.

77. (Withdrawn) A starting clutch according to claim 5, wherein a bearing mechanism intervenes between the clutch case of said second clutch and the hub.

78. (Withdrawn) A starting clutch according to claim 14, wherein said ~~each member~~ hub and said carrier are connected by a spline fitting.

B2 79. (Withdrawn) A starting clutch according to claim 15, wherein said ~~each member~~ output shaft and said carrier are connected by a spline fitting.

80. (Withdrawn) A starting clutch according to claim 16, wherein said ~~each~~ base member and said fixed element are connected by a spline fitting.

81. (Withdrawn) A starting clutch according to claim 24, wherein the member connected to said carrier is the hub of the second clutch.

82. (Withdrawn) A starting clutch according to claim 25, wherein the member connected to said carrier is the hub of the second clutch.

83. (Withdrawn) A starting clutch according to claim 33, further comprising an oil temperature detection means device, wherein a mechanism ~~for regulating the~~ that regulates an opening amount of the valve by the detected oil temperature is provided.

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84. (Withdrawn) A starting clutch according to claim 34, further comprising an oil temperature detection means device, wherein a mechanism ~~for regulating the~~ that regulates an opening amount of the valve by the detected oil temperature is provided.

85. (Withdrawn) A starting clutch according to claim 38, wherein said biasing means device or biasing regulating means ~~is~~ device includes a spring member.

86. (Withdrawn) A starting clutch according to claim 85, wherein said spring member is a Belleville spring.

87. (Withdrawn) A starting clutch according to claim 48, wherein the piston is separated from a frictionally engaging element by the operation of said cylinder.

88. (Withdrawn) A starting clutch according to claim 60, wherein a lubricant oil passage which communicates with said output shaft from said fixed element is provided.

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89. (Withdrawn) A control method of a starting clutch according to claim 68, wherein, when the operating mechanism is completely ON, the first clutch and the second clutch are fastened together and, when the operating mechanism is completely OFF, the first clutch and the second clutch are released.

90. (Withdrawn) A control method of a starting clutch according to claim 89, wherein said first clutch is fastened or slidably moved in a half operating state intermediate between said completely ON state and said completely OFF state.

91. (Withdrawn) A control method of a starting clutch according to claim 89, wherein said second clutch is fastened or slidably moved in a half operating state intermediate between said completely ON state and said completely OFF state.

92. (Withdrawn) A control method of a starting clutch according to claim 68, wherein, when the an operating

mechanism is completely OFF, the first and the second clutches are fastened and, when the operating mechanism is completely ON, the first and the second clutches are released.

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93. (Withdrawn) A control method of a starting clutch according to claim 92, wherein said operating mechanism fastens or slidably moves the first clutch only in a half operating state intermediate between said completely ON state and said completely OFF state.

94. (Withdrawn) A control method of a starting clutch according to claim 90, wherein a creep is generated by said first clutch slidably moving.

95. (New) A clutch mechanism comprising:
a first clutch arranged to output a torque to a planetary mechanism; and
a second clutch arranged to output a torque to the planetary mechanism,
wherein the first and the second clutch cooperate to output a combined torque.

96. (New) A torque amplifying device comprising:
a first clutch coupled to a planetary mechanism;

a second clutch coupled to the planetary mechanism; and
an output shaft arranged to simultaneously receive
torque from both the first clutch and the second clutch
through the planetary mechanism.
